

SECTION II: Drinking Water

A. PRIVATE WELL REGULATIONS¹

Under the authority of Massachusetts General Laws, Chapter 111, Section 31, to better protect the public health of the inhabitants of the Town of Eastham, the Eastham Board of Health voted to adopt the following regulation at its meeting on November 17, 2016. The following regulation shall be effective and applicable beginning on November 18, 2016.

1. DEFINITIONS:

Abandoned Well - A well that has not been used for water supply for a period of one year or more, unless the owner declares his/her intention to use the well again for supplying water within one year.

Board of Health - The Board of Health or its agent.

Pollution - Adverse effect on water quality created by the introduction of any matter.

Potable - Water which is pure and free from impurities that may cause disease or harmful physiological effects and is safe for human consumption, bathing and/or washing purposes.

Rented or Leased Property - Any dwelling used for habitation or business purposes by an occupant other than the owner, for the use of which a fee is paid. This includes, but is not limited to, campgrounds, motels, bed and breakfasts, inns, and other accommodations used on a transient basis, as well as community-type buildings which are rented to community groups.

Well - Any pit, pipe, excavation, spring, casing, drill hole, or other source of water to be used for any purpose of supplying water, and shall include dug wells, driven or tubular wells, drilled wells (artesian or otherwise) and springs, gravel packed, gravel walled wells, gravel developed and washed borings and as further described in the U.S. EPA Manual of Individual Water Supply Systems. For the purpose of these regulations, it shall include both private potable water wells and non-potable water wells.

Well Intended for Human Consumption - Any well supplying water for human consumption, bathing or washing purposes, which is not otherwise regulated as a "public water system" (community or non-community water supply) under 310 CMR 22.00.

2. REGISTRATION OF WELL DRILLERS:

All well drillers doing business in the Town of Eastham shall annually file with the Board of Health a copy of their current well driller registration certificate issued by the Commonwealth of Massachusetts under the General Laws, Chapter 21G Section 20.

3. WELL INSTALLATION, ALTERATION AND REPAIR:

a. No well shall be installed or altered, except by a well driller who is registered with the Water Resources Commission, Division of Water Resources, under MGL Chapter 21G Sections 20 and 310 CMR 46, and the Eastham Board of Health.

b. All wells shall be located on the same lot as the building they serve.

4. WELL CONSTRUCTION PERMIT:

¹ Updated November 17, 2016
Enacted November 18, 2016

- a. No well shall be installed, or altered, until a Well Construction Permit has been obtained from the Board of Health. A permit so granted shall expire six (6) months from the date of issue, unless construction has begun. A six (6) month extension may be granted at no additional cost.
- b. The fee for a well permit for a new construction permit shall be determined by Eastham Board of Selectmen.
- c. An application for a Well Construction Permit shall be submitted by the drilling contractor or his/her agent to the Board of Health on forms furnished by the Board. The well driller is responsible for obtaining said permit prior to construction.
- d. The location and design of the water well must be approved by the Board of Health, prior to the issuance of a Well Construction Permit. Prior to approval, the Board of Health requires the following information be submitted.
 - i. The assessor's map, parcel and lot number of the property on which the well will be located.
 - ii. Design and capacity of the water system, as described under well yield and water system design. Wells that are non-potable and are not intended for human consumption are not required to submit design and capacity of the water system to the Board of Health.
 - iii. A site plan showing proposed location of well in relation to building foundations, property lines, the water supply well intended for human consumption and the subsurface sanitary disposal system(s) serving the lot. The site plan need not be prepared by a qualified professional.
 - iv. For emergency repair, alteration, or replacement of an existing well, the Board of Health may waive the requirements that a site plan be submitted.

All permits issued shall be subject to the conditions that all facilities shown shall be constructed in the location approved by the Board of Health. All permits issued shall be subject to the requirements of these regulations and to such further conditions, as the Board of Health shall prescribe.

5. WELL CONSTRUCTION:

- a. The Board of Health recommends that well construction meet the guidelines outlined in the Massachusetts Department of Environmental Protection Private Well Guidelines
- b. Upon completion of drilling operation the top of well casing shall be protected with a PVC, stainless steel, or steel cap to prevent contamination.
- c. The top of a well shall be above ground that is higher than any surface sources of contamination and above any known conditions of flooding by drainage or runoff from the surrounding land, unless located in a flood- proofed well house.
- d. Wells must be constructed so as to maintain existing natural protection against all known or potential pollution of the groundwater and to exclude all known sources of pollution from entering the well.
- e. All non-yielding holes which are installed in the process of constructing a well must be filled so as to not act as a conduit to the groundwater.
- f. A metal tag shall be affixed to the top of any sub-surface well casing at the time of installation so that the well may later be located, if necessary, by a metal detector.
- g. In areas where salt water or other pollutant intrusion is known or likely to occur, the Board of Health, working with a design engineer and/or well driller, may specify the well screen level, pumping rate, water storage capacity, or any other construction parameter which must be used to ensure that water of adequate quality is obtained.

6. WELL DRILLERS REPORT:

Within thirty (30) days after completion of any well (productive or non-productive), a registered well driller shall submit to the Board of Health, a copy of the report containing the name of the owner of the well, the geographic location of the well, well depth, depth to bedrock or refusal, casing type, casing size and casing length, well screen type, well screen length, and depth at which well screen is set, static water level, method used to test well yield, length of time (in hours) well pumped, drawdown, well yield, and drilling logs describing the material penetrated. The Board of Health will not issue a Compliance Potability Certificate for the well until this report has been received.

7. WELL DESTRUCTION:

- a. Upon destruction of any well, a well completion report must be submitted by the owner or his/her agent to the Board of Health. The well completion report for decommissioned wells must meet the standards of well completion reporting to the Massachusetts Department of Environmental Protection.
- b. Any abandoned well shall be cut 3-4 feet below grade and below pitless adapter, if present, capped and buried. Where in the opinion of the Board of Health adverse conditions exist, more stringent abandonment protocols may be required.

8. WELL LOCATION:

- a. In general, wells intended for human consumption shall be located as far as possible from potential sources of contamination. The following minimum distances are required:

	Potable	Non-Potable
Property Line	10 feet	10 feet
Leaching Catch Basin/Drywell	25 feet, but recommended that this distance be maximized	25 feet, but recommended that this distance be maximized
Roadway	25 feet from edge of road layout (not edge of pavement)	25 feet from edge of road layout (not edge of pavement)
Utility Rights-of-Way	50 feet, but recommended that this distance be maximized	50 feet, but recommended that this distance be maximized
Septic Tank	50 feet	10 feet
Septic Leaching Facility	100 feet	25 feet
Septic Distribution Box	50 feet	10 feet
Building Sewer lines	10 feet	10 feet
Subsurface Drains	25 feet, but recommended that this distance be maximized, as pollutants frequently travel along the outside of subsurface drain pipes	25 feet, but recommended that this distance be maximized, as pollutants frequently travel along the outside of subsurface drain pipes

Where, in the opinion of the Board of Health, adverse conditions exist, the above distances may be increased. In certain cases, the Board of Health may require the owner to provide additional means of protection. Where possible, the well shall be located up the groundwater gradient from sources of contamination.

B. ADDITIONAL REQUIREMENTS FOR POTABLE WATER WELLS INTENDED FOR HUMAN CONSUMPTION

Wells that serve the purpose of providing potable water for human consumption must meet the following requirements, in addition to the requirements set forth Section A – Private Wells Regulations.

2. WATER QUALITY:

- a. Prior to the issuance of the compliance potability certificate of the well, the owner or his/her agent, shall take a water sample(s) from the well and submit it to a state certified testing laboratory for analysis, with the cost to be borne by the owner. The results of all analyses shall be submitted to the Board of Health. At a minimum, water must be tested for the following chemical and bacteriological standards: total coliform, nitrate- nitrogen, pH, conductivity, sodium and iron.
- b. The Board of Health will determine the potability of the well, using as guidelines the National Interim Primary and Secondary Drinking Water Standards and the U.S. Maximum Contaminant Levels (MCLs). The water quality standards for common parameters are as follows:

Primary Standards	
Total Coliform	0 Colonies/100ml by membrane filtration
Nitrate	10 ppm

Secondary Standards	
pH	Recommended Ph above 5.0
Sodium	Recommended below 20 ppm
Iron	0.3 ppm

In the event that any secondary standards are exceeded, yet the water is deemed fit for human consumption by a state certified testing lab, the owners of said property shall be notified of test results so as to allow any corrective measures to be implemented.

Test results must meet current established maximum contaminant levels (MCLs) for synthetic organic compounds.

3. TESTING REQUIREMENTS

- a. Rational - The area surrounding the capped landfill has been the focus of testing and concern vis a vis water quality in recent years. Some limited traces of Volatile Organic Chemicals (VOCs) have been found in this area, and occasionally even an exceedance has been found.

- b. Basis in Law:

- i. Town of Eastham Regulation 2 (A) Drinking Water: Private Well Regulations
- ii. 310 CMR 22.00 Water Quality
- iii. EPA Method 524.2 - Methods for Determination of Organic Compounds in Drinking Water
- iv. M.G.L. c. III Section 31, Health Regulations 310

- c. Water Quality:

Approval of any well as a supply of potable water (intended for human consumption) shall require the owner or owner's agent to provide the Board of Health satisfactory test results as required by 310 CMR 22.00 et seq., as amended to the date of application, from water sample(s) taken from any potential well and submitted to a state-certified laboratory test, at the owner's expense, for the following tests:

- i. Total Coliform, Nitrate-Nitrogen, pH, Conductivity, Sodium and Iron
 - ii. Volatile Organic Compounds, employing EPA method 524.2 Methods for Determination of Organic Compounds in Drinking Water.
- d. In locations where potential sources of contamination are believed to exist, or where geologic or hydrologic conditions require more restrictive or additional standards than those outlined above, additional water testing and special standards may be required by the Board of Health to ascertain that water meets the Maximum Contaminant Levels set for public water supplies by the U.S. EPA under the Safe Drinking Water Act and 1986 SDWA amendments.
- e. When the Board of Health deems it necessary, the Health Agent, or other agent of the Board of Health, may be present to witness the taking of a water sample and/or may take the water sample and deliver it to the testing laboratory him/herself.
- f. The Board of Health further recommends that all well owners have their wells tested, at a minimum of every two years, and at more frequent intervals when water quality problems are known to exist.
- g. In cases where the well water does not meet the water quality standards outlined above the Board of Health may require the property owner to provide an alternative approved source of drinking water for the inhabitants or the building which is served by the well.
- h. Routine and VOC tests of a property's well water by a state certified testing lab to verify suitability for human consumption shall be required in change of ownership of said property. The buyer shall be notified of test results prior to finalization of transfer.

i. Well Yield and Water System Design:

- i. Before approval, every well shall be pump tested to determine yield. The pump test shall include a drawdown test at a minimum pumping rate of 5 gallons per minute for one (1) hour.

j. Submission of Well Water Test Results:

- i. Prior to issuance of a Compliance Potability Certificate for well water intended for human consumption, the results of all water quality and yield tests shall be submitted to the Board of Health. The owner of the property, which the well will serve, or the well driller, acting as agent for the owner, shall certify, on a form provided by the Board of Health, the following:
 - a. The location and date the sample was taken, and the laboratory at which it was analyzed.
 - b. That the water sample whose analysis results were submitted to the Board of Health was taken from the well for which approval is being sought.

4. WELL APPROVAL:

- a. New wells shall not be placed into use for human consumption until the Board of Health has approved the potability and quantity of the water provided and issued a Compliance Potability Certificate for the well to the owner of the property which the well serves.
- b. A Compliance Potability Certificate for a well will not be issued until:
 - i. The well water has been shown to meet the water quality criteria outlined in the regulations, and/or has been certified fit for human consumption by a state certified testing lab.
 - ii. For wells installed at newly constructed buildings, the Board of Health shall require that a certified as built plot plan, drawn by a qualified Professional be submitted to the Board of Health. Such plot plan must show the actual location of the well on the lot as cross tie distances from lot corners, and

must show the location of the septic system, as installed, in relation to the well. The plot plan must also identify, by assessors map, parcel and lot number, the property on which the well is located.

- iii. Wells which fail to meet some or all of the requirements in these regulations may be approved by the Board of Health after a hearing at which a variance from these standards may be granted.

C. Requirements for Wells in the Mandatory Municipal Water Supply Zone (see attached map)

Due to the potential contamination of groundwater in the Mandatory Municipal Water Supply Zone (bounded by Glacier Hills Road, Nauset Road, Doane Road, State Highway and the Bike Trail on the attached map) the following restrictions will apply:

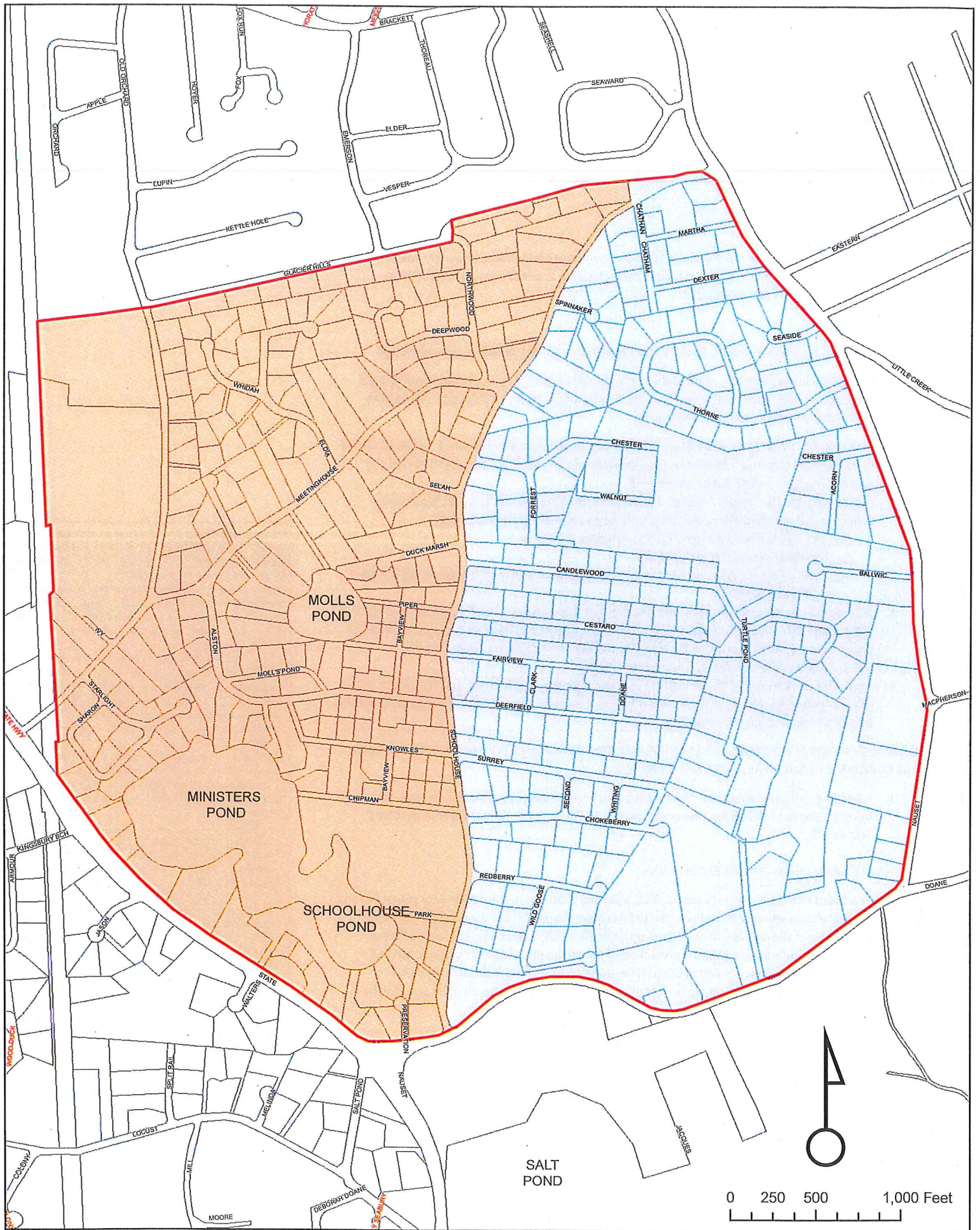
1. In the Central Area bounded by Glacier Hills Road, Schoolhouse Road, Route 6 and Bike Trail (see attached map) no private wells can be converted for irrigation use. All existing irrigation wells must be abandoned.
2. In areas outside the Central Area but within the Mandatory Municipal Water Supply Zone conversion of private drinking water wells for irrigation use may be allowed if the well:
 - a. is not completed in the 1, 4 Dioxane Plume
 - b. is less than 100 ft in depth
 - c. the 1, 4 Dioxane concentration results are below 0.3 ug/l (or the current ORS-G, GW-1 standard/guidelines).
3. All private wells tested with a 1, 4, Dioxane concentration above 0.3 ug/l (or the current ORS-G, GW-1 standard/guideline) shall be plugged and abandoned per Massachusetts Department of Environmental Protection Policy "Standard References for Monitoring Wells" or the Massachusetts DEP "Private Well Guidelines" Policy.
4. All private wells tested with 1, 4 Dioxane concentration less than 0.3 ug/l (or the current ORS-G GW-1 standard/guideline) shall be cut 3-4 feet below grade, capped and buried simultaneous as part of the connection to municipal water.

D. REQUIREMENTS FOR POTABLE WELLS CONVERTED TO NON-POTABLE IRRIGATION WELLS OUTSIDE THE MANDATORY MUNICIPAL WATER SUPPLY ZONE

1. A certificate to convert the existing potable well for non-potable use must be obtained from the Board of Health and is subject to Eastham Municipal Water Regulations Section 6.9

E. VARIANCE AND ENFORCEMENT PROCEDURES:

1. The Board of Health may vary the application of any provision of this article with respect to any particular case when, in its opinion, the enforcement thereof would do manifest injustice; provided that the decision of the Board of Health shall not conflict with the spirit of these minimum standards, nor with the protection of human health and environmental quality.
2. Every request for a variance shall be made in writing and shall state the specific variance requested and the reasons therefore. Any variance granted by the Board of Health shall be in writing.



MANDATORY CONNECTION AREAS

- CENTRAL - MANDATORY WELL ABANDONMENT/NO IRRIGATION WELLS
- EAST - IRRIGATION WELLS MAY BE CONSIDERED